EXHIBIT A

RESUME

R.William Kreutel
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Education

Doctor of Science, Electrical Engineering, The George Washington University, Washington, D.C. 1978
Master of Science, Electrical Engineering, Northeastern University, Boston, MA 1964
Bachelor of Science, Electrical Engineering, Northeastern University, Boston, MA 1961

Professional Experience

Consulting Engineer (3 years)
Consulting engineer in antennas, phased arrays and radiating systems

Teledesic (6 years)
Chief Antennas Architect

- Responsible for all spacecraft and earth terminal antenna technology.
- High gain, Ku Band multiple beam, lens antennas (2-D and 3-D bootlace and dielectric lenses) for space application
- Multi-beam, active aperture, Ka Band phased array antennas for space application
- Low cost, wide angle scan, Ku/Ka Band phased array antenna user terminals

Motorola Satcom Division (4 years)
Program Manager

- Managed the development of the IRIDIUM spacecraft antenna systems
  + Main Mission Antenna – L Band, active aperture, multiple beam array antenna
  + Crosslink antennas – Ka Band flat plate slot array antennas
  + Gateway antennas – Ka Band mechanically steerable, dual reflector antennas
- Ka Band phased array antenna development for user terminals (Celestri)
- Digital beam forming studies

Electromagnetic Sciences (4 years)
Principal Engineer

- Design/development of lightweight beamforming networks for space application
- Designed the C Band antennas for NASA Aero-brake Flight Experiment
- Antenna design and system engineering support for NASA Microwave Reflecto-meter Ionization Sensor (MRIS)
- Established business group to provide design, development and manufacture of antenna feed systems and beamforming networks for commercial satcom

Comsat Laboratories (18 years)
Manager, Antenna Department

- Planned and managed Comsat and Intelsat antenna R&D programs
- Contributed to the development of dual polarized, multi-beam antennas for frequency reuse satcom systems
- Development of shaped beam and reconfigurable beam antennas
- Design and development of wideband autotrack systems
- Design and development of polarizing networks, orthomode transducers and adaptive polarization networks
- Contributed to the use of radio star calibration methods (G, G/T) for earth terminal antennas
- Supported Intelsat I, II, III, IV, IVa, V and Comstar satellite programs
- Provided technical advisory service to the international community

Director, Optical Communications Laboratory

- Managed research team in developing optical technology for satcom applications
- Design and development of optical switch matrix for SS/TDMA
- Design and development of optical intersatellite links
- Development of optically controlled phased array antennas (including optical beamforming)

Division Director, Development Engineering

- Managed and administered production engineering facility
- Responsible for second stage product development and limited quantity production Of components and systems
- Responsible for technology transfer between R&D labs and Comsat affiliated companies

GTE/Sylvania
Research Engineer

- Participated in the pioneering development of phased array technology (MAR)
- Design and development of low noise, multifrequency earth terminal antenna for early military satcom (ADVENT)
- Design and development of RF feed system (organ pipe scanner) for artillery shell tracking radar (MPQ-32)
- Design and development of HF log periodic antennas for OHD radar (FPS-95)

Professional Affiliations

Institute of Electrical and Electronic Engineers (Fellow)
American Institute of Aeronautics and Astronautics (Assoc. Fellow)
International Union of Radio Science (URSI, Commissions A & B)
New York Academy of Science
Eta Kappa Nu
Sigma XI